



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2013-0094; Directorate Identifier 2012-NM-160-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; Airbus Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for all Airbus Model A318, A319, A320, and A321 series airplanes. This proposed AD was prompted by reports that certain trimmable horizontal stabilizer actuators (THSA) were found with corrosion that affected the ballscrew lower splines between the tie-bar and screw-jack. This proposed AD would require repetitive inspections of the THSA; ballscrew integrity tests, if necessary; and replacement of affected THSAs. We are proposing this AD to detect and correct corrosion in the ballscrew lower splines, which, if the ballscrew ruptured, could lead to transmission of THSA torque loads from the ballscrew to the tie-bar, prompting THSA blowback, and possible loss of control of the airplane.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.

- Fax: (202) 493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30,  
West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE.,  
Washington, DC 20590.

- Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30,  
West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE.,  
Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal  
holidays.

For Airbus service information identified in this proposed AD, contact Airbus, Airworthiness Office – EAS, 1 Rond Point Maurice Bellonte, 31707 Blagnac Cedex, France; telephone +33 5 61 93 36 96; fax +33 5 61 93 44 51; email [account.airworth-eas@airbus.com](mailto:account.airworth-eas@airbus.com); Internet <http://www.airbus.com>. For Goodrich service information identified in this proposed AD, contact Goodrich Corporation, Actuation Systems, Stafford Road, Fordhouses, Wolverhampton WV10 7EH, England; telephone +44 (0) 1902 624938; fax +44 (0) 1902 788100; email [techpubs.wolverhampton@goodrich.com](mailto:techpubs.wolverhampton@goodrich.com); Internet <http://www.goodrich.com/TechPubs>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

## **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone (800) 647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Sanjay Ralhan, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone (425) 227-1405; fax (425) 227-1149.

## **SUPPLEMENTARY INFORMATION:**

### **Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2013-0094; Directorate Identifier 2012-NM-160-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD based on those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will

also post a report summarizing each substantive verbal contact we receive about this proposed AD.

## **Discussion**

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community, has issued EASA Airworthiness Directive 2012-0175, dated September 7, 2012 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for the specified products. The MCAI states:

Some Trimmable Horizontal Stabilizer Actuators (THSA), Part Number (P/N) 47147-500 fitted on A330/A340 aeroplanes have been found with corrosion, affecting the ballscrew lower splines between the tie bar and the screw-jack. The affected ballscrew is made of steel and anti-corrosion protection is ensured, except on both extremities (upper and lower splines) where Molykote is applied.

The results of the technical investigations have identified that the corrosion was caused by a combination of:

- contact/friction between the tie bar and the inner surface of the ballscrew, leading to the removal of Molykote (corrosion protection) at the level of the tie bar splines,
- humidity ingress initiating surface oxidation starting from areas where Molykote is removed, and
- water retention in THSA lower part leading to corrosion spread out and to the creation of a brown deposit (iron oxide).

The results of the technical investigations have also concluded that A320 family THSA P/N 47145-XXX (where XXX stands for any numerical value) ballscrews might be affected by this corrosion issue.

This condition, if not detected and corrected, may lead, in case of ballscrew rupture, to loss of transmission of THSA torque loads from the ballscrew to the tie-bar, prompting

THSA blowback, possibly resulting in loss of control of the aeroplane.

For the reasons described above, this [EASA] AD requires repetitive detailed inspections of the ballscrew lower splines of THSAs having P/N 47145-XXX to detect corrosion and, depending on findings, the accomplishment of applicable corrective actions.

The required action is repetitive detailed inspections of the gaps between the ballscrew shaft and tie-rod splines of the affected THSAs to determine the corrosion category.

Depending on the corrosion category, additional actions include a ballscrew shaft integrity test and replacing the THSA with a new THSA if necessary. You may obtain further information by examining the MCAI in the AD docket.

#### **Relevant Service Information**

Airbus has issued Service Bulletin A320-27-1214, including Appendix 01, dated February 23, 2012; and Goodrich has issued Service Bulletin 47145-27-16, dated November 7, 2011. The actions described in this service information are intended to correct the unsafe condition identified in the MCAI.

#### **FAA's Determination and Requirements of This Proposed AD**

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to our bilateral agreement with the State of Design Authority, we have been notified of the unsafe condition described in the MCAI and service information referenced above. We are proposing this AD because we evaluated all pertinent information and determined an unsafe condition exists and is likely to exist or develop on other products of the same type design.

## **Costs of Compliance**

Based on the service information, we estimate that this proposed AD would affect about 755 products of U.S. registry. We also estimate that it would take about 4 work-hours per product to comply with the basic requirements of this proposed AD. The average labor rate is \$85 per work-hour. Based on these figures, we estimate the cost of the proposed AD on U.S. operators to be \$256,700, or \$340 per product.

In addition, we estimate that any necessary follow-on actions would take about 15 work-hours and require parts costing \$2,203, for a cost of \$3,478 per product. We have no way of determining the number of products that may need these actions.

## **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

## **Regulatory Findings**

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this proposed AD and placed it in the AD docket.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new AD:

**Airbus:** Docket No. FAA-2013-0094; Directorate Identifier 2012-NM-160-AD.

#### **(a) Comments Due Date**

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

None.

#### **(c) Applicability**

This AD applies to all Airbus Model A318-111, -112, -121, and -122 airplanes; Airbus Model A319-111, -112, -113, -114, -115, -131, -132, and -133 airplanes; Airbus Model A320-111, -211, -212, -214, -231, -232, and -233 airplanes; and Airbus Model A321-111, -112, -131, -211, -212, -213, -231, and -232 airplanes; certificated in any category.



**(d) Subject**

Air Transport Association (ATA) of America Code 27, Flight controls.

**(e) Reason**

This AD was prompted by reports that certain trimmable horizontal stabilizer actuators (THSA) were found with corrosion that affected the ballscrew lower splines between the tie-bar and screw-jack. We are issuing this AD to detect and correct corrosion in the ballscrew lower splines, which, if the ballscrew ruptured, could lead to transmission of THSA torque loads from the ballscrew to the tie-bar, prompting THSA blowback, and possible loss of control of the airplane.

**(f) Compliance**

You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

**(g) Explanation of THSA First Flight**

For the purposes of this AD, the definition of THSA first flight is the THSA “entry into service date,” as identified in Goodrich Service Bulletin 47145-27-16, dated November 7, 2011. If the THSA part number (P/N) is not identified in Goodrich Service Bulletin 47145-27-16, dated November 7, 2011, the THSA first flight is the manufacturing date engraved on the THSA identification plate.

**(h) Repetitive Inspections**

At the later of the times in paragraphs (h)(1) and (h)(2) of this AD: Do a detailed inspection of the gaps between the ballscrew shaft and tie-rod splines on any THSA having P/N 47145-XXX (where XXX stands for any numerical value) to determine if the

corrosion category is Type I, Type II, or Type III, in accordance with the Accomplishment Instructions of Airbus Service Bulletin A320-27-1214, including Appendix 01, dated February 23, 2012; and the Accomplishment Instructions and the flowchart following the Accomplishment Instructions of Goodrich Service Bulletin 47145-27-16, dated November 7, 2011. Repeat the inspection thereafter at intervals not to exceed 24 months.

(1) Within 22 years accumulated by the THSA since the THSA's first flight, but no earlier than 20 years accumulated by the THSA since its first flight.

(2) Within three months after the effective date of this AD.

**(i) Ballscrew Integrity Test and Corrective Actions**

If, during any inspection required by paragraph (h) of this AD, it is determined that a THSA has Type II or Type III corrosion: Before further flight, do a ballscrew integrity test, in accordance with the Accomplishment Instructions of Airbus Service Bulletin A320-27-1214, including Appendix 01, dated February 23, 2012; and the Accomplishment Instructions and the flowchart following the Accomplishment Instructions of Goodrich Service Bulletin 47145-27-16, dated November 7, 2011. If Type I corrosion is found, no action is required by this paragraph.

(1) For THSAs having Type II or Type III corrosion and for which the results of the ballscrew integrity test are not correct, as specified in Airbus Service Bulletin A320-27-1214, including Appendix 01, dated February 23, 2012: Before further flight, replace the affected THSA with a new THSA, in accordance with the Accomplishment

Instructions of Airbus Service Bulletin A320-27-1214, including Appendix 01, dated February 23, 2012.

(2) For THSAs having Type III corrosion and on which the results of the ballscrew integrity test are correct, as specified in Airbus Service Bulletin A320 27-1214, including Appendix 01, dated February 23, 2012: Within 10 days after the most recent inspection, replace the THSA with a new THSA, in accordance with the Accomplishment Instructions of Airbus Service Bulletin A320-27-1214, including Appendix 01, dated February 23, 2012.

(3) For THSAs having Type II corrosion and on which the results of the ballscrew integrity test are correct, as specified in Airbus Service Bulletin A320 27-1214, including Appendix 01, dated February 23, 2012: Within 24 months or 5,000 flight cycles after the most recent inspection, whichever occurs first, replace the THSA with a new THSA, in accordance with the Accomplishment Instructions of Airbus Service Bulletin A320-27-1214, including Appendix 01, dated February 23, 2012.

**(j) Replacement of a THSA is not Terminating Action**

Replacement of a THSA, as required by paragraph (i) of this AD, does not constitute terminating action for the repetitive inspections required by paragraph (h) of this AD.

**(k) Reporting Requirement**

If any corrosion type is found during any inspection required by paragraph (h) of this AD, at the applicable time in paragraph (k)(1) or (k)(2) of this AD, report the findings to Airbus, Customer Services Engineering – SEEL5, Flight Control Systems

A320 Family, 1 Rond Point Maurice Bellonte, 31707 Blagnac Cedex, France;  
fax +33 5 61 93 44 25. The report must include the information specified in Appendix 01  
of Airbus Service Bulletin A320-27-1214, dated February 23, 2012.

(1) If the inspection was done on or after the effective date of this AD: Within  
90 days after that inspection.

(2) If the inspection was done before the effective date of this AD: Within 90 days  
after the effective date of this AD.

**(l) Parts Installation Limitations**

As of the effective date of this AD, no person may install a THSA having  
P/N 47145-XXX (where XXX stands for any numerical value), on any airplane, unless  
that THSA meets the criteria specified in paragraphs (l)(1) and (l)(2) of this AD.

(1) The THSA has not accumulated 20 years since the THSA's first flight, or the  
THSA has been inspected as required by paragraph (h) of this AD and it has been  
determined that the THSA had Type I corrosion (no corrosion) at the time of  
installation; and

(2) The THSA is thereafter inspected as required by paragraph (h) of this AD, and  
any applicable actions specified in paragraph (i) of this AD are accomplished.

**(m) Other FAA AD Provisions**

The following provisions also apply to this AD:

**(1) Alternative Methods of Compliance (AMOCs):** The Manager, International  
Branch, ANM-116, Transport Airplane Directorate, FAA, has the authority to approve  
AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In

accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the International Branch, send it to ATTN: Sanjay Ralhan, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone (425) 227-1405; fax (425) 227-1149. Information may be emailed to: 9-ANM-116-AMOC-REQUESTS@faa.gov. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. The AMOC approval letter must specifically reference this AD.

**(2) Airworthy Product:** For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

**(3) Reporting Requirements:** A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2120-0056. Public reporting for this collection of information is estimated to be approximately 5 minutes per response, including the time for reviewing instructions, completing, and reviewing the collection of information. All responses to this collection of information are mandatory.

Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to the FAA at: 800 Independence Ave. SW, Washington, DC 20591, Attn: Information Collection Clearance Officer, AES-200.

**(n) Special Flight Permits**

Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the airplane can be modified (if the operator elects to do so), provided that, if any THSA corrosion is found during any action required by paragraph (h) of this AD, that corrosion is classified as Type I or Type II, as defined in Goodrich Service Bulletin 47145-27-16, dated November 7, 2011.

**(o) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information European Aviation Safety Agency Airworthiness Directive 2012-0175, dated September 7, 2012, and the service information specified in paragraphs (o)(1)(i) and (o)(1)(ii) of this AD, for related information.

(i) Airbus Service Bulletin A320-27-1214, including Appendix 01, dated February 23, 2012.

(ii) Goodrich Service Bulletin 47145-27-16, dated November 7, 2011.

(2) For Airbus service information identified in this AD, contact Airbus, Airworthiness Office – EAS, 1 Rond Point Maurice Bellonte, 31707 Blagnac Cedex, France; telephone +33 5 61 93 36 96; fax +33 5 61 93 44 51; email [account.airworth-eas@airbus.com](mailto:account.airworth-eas@airbus.com); Internet <http://www.airbus.com>. For Goodrich service information identified in this AD, contact Goodrich Corporation, Actuation Systems, Stafford Road, Fordhouses, Wolverhampton WV10 7EH, England; telephone +44 (0) 1902 624938; fax +44 (0) 1902 788100; email [techpubs.wolverhampton@goodrich.com](mailto:techpubs.wolverhampton@goodrich.com); Internet <http://www.goodrich.com/TechPubs>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221. Issued in Renton, Washington, on February 11, 2013.

Ali Bahrami,  
Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

[FR Doc. 2013-04339 Filed 02/25/2013 at 8:45 am; Publication Date: 02/26/2013]